

3.6 Threatened and Endangered Species

This section of the Final Environmental Impact Report discusses federal- and state- listed threatened and/or endangered species having the potential to occur on-site, or having suitable habitat on-site or in the proposed Eagle Mountain Pumped Storage Project (Project) vicinity. Information provided in this section has been based on field reconnaissance, resources agency consultation (where noted), and from previously prepared reports as referenced throughout this document. A mitigation program is provided in order to reduce or avoid potential impacts, where applicable.

Please note: This discussion of biological resources is addressed in Section 3.5 Biological Resources and Section 3.6 Threatened and Endangered Species.

3.6.1 Regulatory Setting

The following federal, state, and local laws and policies apply to the protection of threatened and/or endangered species. The proposed Project will be constructed and operated in conformance with all applicable federal, state, and local laws, ordinances, regulations, and standards (LORS).

Portions of the Project site are located on private lands which are not subject to federal or state land management requirements. Other portions of the Project site are located on federal land which is managed by the Bureau of Land Management (BLM) and therefore subject to the biological LORS of the agency.

3.6.1.1 Federal

Federal Endangered Species Act of 1973 (FESA) prohibits acts of disturbance that result in the “take” of threatened or endangered species. As defined by the Federal Endangered Species Act, “endangered” refers to any species that is in danger of extinction throughout all or a significant portion of its current range. The term “threatened” is applied to any species likely to become endangered within the foreseeable future throughout all or a significant portion of its current range. Take is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” Violation of this section can result in penalties of up to \$50,000 and up to 1 year of imprisonment. Sections 7 and 10 of the FESA provide a method for permitting an action that may result in “incidental take” of a federally-listed species. Incidental take refers to take of a listed species that is incidental to, but not the primary purpose of, an otherwise lawful activity.

Incidental take is permitted under Section 7 for projects on federal land or involving a federal action, while Section 10 provides a method for permitting incidental take resulting from state or private action.

Eagle Act (Title 50, Code of Federal Regulations [CFR]). Section 22.26 authorizes the limited take of bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) under the Eagle Act, where the taking is associated with, but not the purpose of activity, and cannot practicably be avoided.

Eagle Act (Title 50, Code of Federal Regulations [CFR]). Section 22.27 provides for the intentional take of eagle nests where necessary to alleviate a safety hazard to people or eagles; necessary to ensure public health and safety; the nest prevents the use of a human-engineered structure or; the activity, or mitigation for the activity, will provide a net benefit to eagles. Only inactive nests would be allowed to be taken except in the case of safety emergencies.

Bald and Golden Eagle Protection Act (Title 16, United States Code [USC], Chapter 5A, Section 668) provides for the protection of the bald eagle and the golden eagle by prohibiting, except under certain specified conditions, the take, possession, and commerce of such birds. The 1972 amendments increased penalties for violating provisions of the Act or regulations issued pursuant thereto and strengthened other enforcement measures. Rewards are provided for information leading to arrest and conviction for violation of the Act.

California Desert Conservation Area (CDCP) comprises one of two national conservation areas established by Congress at the time of the passage of the Federal Land and Policy Management Act (FLPMA). The FLPMA outlines how the BLM will manage public lands. Congress specifically provided guidance for the management of the CDCA and directed the development of the 1980 CDCA Plan.

Northern and Eastern Colorado Desert Coordinated Management (NECO) Plan is the regional amendment to the CDCA Plan approved in 2002; the NECO Plan protects and conserves natural resources while simultaneously balancing human uses in the northern and eastern portion of the Colorado Desert. The NECO Plan is a landscape-scale, multi-agency planning effort that protects and conserves natural resources while simultaneously balancing human uses of the California portion of the Sonoran Desert ecosystem. The planning area encompasses over 5 million acres and hosts 60 sensitive plant and animal species. Lands within the planning area are also popular for hiking, hunting, rockhounding, and driving for pleasure. Several commercial mining operations, livestock grazing, and utility transmission lines exist in the area as well. The NECO Plan amends the 1980 CDCA Plan.

Migratory Bird Treaty Act (MBTA) (Title 16, USC, Sections 703 through 711) makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Most of the birds found in the study area are

protected under the MBTA. Thus, Project construction has the potential to directly take nests, eggs, young, or individuals of protected species.

Further, Project construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to the abandonment of nests, a violation of the MBTA. Measures that may be instituted to help ensure compliance with the MBTA include the following:

- Grading and other construction activities should be scheduled to avoid the nesting season to the extent possible. The nesting season for most birds in Riverside County extends from March through August.
- If the nesting season cannot be avoided, the following measures should be instituted:
 - A qualified biologist should conduct pre-construction surveys no more than 1 week prior to the initiation of construction in any given area to ensure that no nests of species protected by the MBTA would be disturbed during Project implementation.
 - If an active nest more than half completed is found, a construction-free buffer zone should be established around the nest. The size of the buffer zone should be determined by a qualified biologist in consultation with.
 - If vegetation is to be removed by the Project and all necessary approvals have been obtained, potential nesting substrate (e.g., bushes, trees, grass, buildings, and burrows) that will be removed by the Project should be removed before the onset of the nesting season (March) to help preclude nesting. Pre-removal surveys are required for some species. Removal of vegetation or structures slated for removal by the Project should be completed outside of the nesting season (i.e., between September 1 and March 1).

Executive Order 11312 Prevention and Control Invasive Species (1999) directs all federal agencies to prevent and control introductions of invasive nonnative species in a cost-effective and environmentally sound manner to minimize their economic, ecological, and human health impacts. Executive Order 11312 established a national Invasive Species Council made up of federal agencies and departments and a supporting Invasive Species Advisory Committee composed of state, local, and private entities. The Invasive Species Council and Advisory Committee oversee and facilitate implementation of the Executive Order, including preparation of a National Invasive Species Management Plan.

Wild Free-Roaming Horse and Burro Act (Public Law 92-195) protects wild horses and burros from capture, branding, harassment, and death, and managed with the intent to achieve and preserve the natural ecological balance on public lands.

Desert Tortoise (Mojave Population) Recovery Plan (U.S. Fish and Wildlife Service [USFWS], 1994a) and Draft Revised Recovery Plan (USFWS, 2008a) Describes a strategy for recovery and delisting of the desert tortoise.

Federal Noxious and Invasive Weed Laws pertaining to noxious and invasive weeds, including the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 as amended (16 USC 4701 et seq.), Lacey Act as amended (18 USC 42), Federal Plant Pest Act (7 USC 150aa et seq.), Federal Noxious Weed Act of 1974 as amended by the Food, Agriculture, Conservation and Trade Act of 1990 (Section 1453 “Management of Undesirable Plants on Federal Lands;” USC 2801 et seq.), the Carlson-Fogey Act of 1968 (Public Law 90-583), and Federal Executive Order 11312 released February 3, 1999. The BLM and other federal, state, and local agencies are also concerned about weed infestation and dispersal on private and public lands. The BLM and U.S. Department of Agriculture maintain lists of pest plants of economic or ecological concern.

3.6.1.2 State

California Endangered Species Act (CESA) of 1984 (Fish and Game Code, sections 2050 through 2098) protects California’s rare, threatened, and endangered species. The CDFW has the responsibility for maintaining a list of endangered and threatened species (Fish and Game Code 2070). CDFW also maintains a list of “candidate species,” which are species that CDFW formally notices as being under review for addition to the list of endangered or threatened species. In addition, CDFW maintains lists of “species of special concern,” which serve as species “watch lists.” Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any species that are state-listed as endangered or threatened may be present in the project study area and, if so, whether the proposed project would have a potentially significant impact on any of these species. In addition, CDFW encourages informal consultation on any proposed project that may affect a species that is a candidate for state listing.

Project-related impacts to species listed as endangered or threatened under the CESA would be considered significant. State-listed species are fully protected under the mandates of the CESA. “Take” of protected species incidental to otherwise lawful management activities may be authorized under Section 2081 of the Fish and Game Code.

Protected furbearing mammals (California Code of Regulations [CCR], Title 14, Section 460) states fisher, marten, river otter, desert kit fox, and red fox may not be taken at any time.

California Code of Regulations (Title 14, sections 670.2 and 670.5) lists the plants and animals of California that are declared rare, threatened, or endangered.

Fully Protected Species (Fish and Game Code, sections 3511, 4700, 5050, and 5515) designates certain species as fully protected and prohibits the take of such species or their habitat unless for scientific purposes (*see also* CCR Title 14, Section 670.7).

Nest or Eggs (Fish and Game Code Section 3503) protects California's birds by making it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird.

Birds of Prey (Fish and Game Code Section 3503.5) makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes and Strigiformes or to take, possess, or destroy the nest or eggs of any such bird.

Migratory Birds (Fish and Game Code Section 3513) protects California's migratory birds by making it unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame birds.

Nongame mammals (Fish and Game Code Section 4150) makes it unlawful to take or possess any non-game mammal or parts thereof except as provided in the Fish and Game Code or in accordance with regulations adopted by the commission.

Significant Natural Areas (Fish and Game Code Section 1930 and following) designates certain areas such as refuges, natural sloughs, riparian areas, and vernal pools as significant wildlife habitat.

California Environmental Quality Act (CEQA), Guidelines §15380 defines rare species more broadly than the definitions for species listed under the state and federal Endangered Species Acts. Under Section 15830, species not protected through state or federal listing but nonetheless demonstrable as endangered or rare under the CEQA should also receive consideration in environmental analyses. Included in this category are many plants considered rare by the California Native Plant Society (CNPS) and some animals on the CDFW's Special Animals List.

Streambed Alteration Agreement (Fish and Game Code sections 1600 and following) regulates activities that may divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake in California designated by the CDFW in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit. Impacts to vegetation and wildlife resulting from disturbances to waterways are also reviewed and regulated during the permitting process.

Native Plant Protection Act (Fish and Game Code sections 1900-1913) prohibits the taking, possessing, or sale within California of any plants with a state designation of rare, threatened, or endangered, as defined by the CDFW. Project impacts to these species are not considered significant unless the species are known to have a high potential to occur in the area of disturbance associated with construction of the Project.

California Desert Native Plants Act of 1981 (Food and Agricultural Code Section 80001 and following and Fish and Game Code sections 1925 and 1926) protects non-listed California desert native plants from unlawful harvesting on both public and private lands in Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego counties. Unless issued a valid permit, wood receipt, tag, and seal by the commissioner or sheriff, harvesting, transporting, selling, or possessing specific desert plants is prohibited.

Porter-Cologne Water Quality Control Act regulates discharges of waste and fill material to waters of the state, including isolated waters and wetlands.

3.6.1.3 Local

Riverside County General Plan provides protection and preservation of wildlife for the maintenance of the balance of nature.

3.6.2 Environmental Setting

Four federally- and/or state-listed species included in the list of special-status species which may occur or have been documented to occur in the Project vicinity, and have potential to be affected by Project activities include: Coachella Valley milkvetch, American peregrine falcon, Gila woodpecker, and desert tortoise (A summary of the habitat and range of each special-status species is presented in Appendix A). Federally-listed species are denoted by the USFWS and U.S. Department of the Interior, BLM designation; whereas state-listed species are denoted by the CDFW and/or the CNPS.

The four listed species includes only those species with the potential to be found in the area of Project components, not all special-status species that are regionally known. As discussed in Section 3.5 Biological Resources, the list of special-status, game, and protected species that may occur or have been documented to occur in the Project vicinity and have potential to be affected by Project activities is based on: (1) records of the California Natural Diversity Data Base ([CNDDDB] 2008 and 2009a) for special-status species that are known to occur in the Project survey area; (2) records from the CNPS for special-status plants (CNPS, 2009); (3) results from recent, relevant surveys and reviews (Riverside County and BLM, 1996); (4) the NECO (BLM and CDFW, 2002); and (5) known habitats in the area (i.e., experience of the consulting biologist).

Recent, relevant biological surveys in the Project area include:

- *Eagle Mountain Pumped Storage Project* – 2008 and 2009 surveys
- *Southern California Edison Devers-Palo Verde 2* – Surveyed in 1985, 1987, 2002, 2003, 2004, 2005 and 2008 (see Blythe Energy LLC, 2004; EPG, 2004; Tetra Tech EC, Inc., 2005; and Karl, 2009 for recent data)*FPL Energy Blythe Energy Project Transmission Line – 2004* (Blythe Energy LLC, 2004; EPG, 2004) and 2005 (Tetra Tech EC, Inc., 2005)

- *District Desert Southwest Transmission Line Project* – 2002 (BLM and IID, 2005) and 2005 (Tetra Tech EC, Inc., 2005)
- *Eagle Mountain Landfill and Recycling Center* – 1989-90 and 1995 EIS (Riverside County and BLM, 1996), BA (RECON, 1992) and supporting studies for these Eagle Mountain Landfill permits

Coachella Valley Milkvetch. (*USFWS: Endangered; BLM: Sensitive;*¹ *CDFW: None; CNPS: List 1B*). This subspecies (of root plant) is known primarily from the Coachella Valley, east to approximately Desert Center (NECO, 2002; CNPS, 2009). Many Coachella Valley populations are threatened by Off Highway Vehicle (OHV) recreational use and may no longer exist. A population was also allegedly found in the aeolian areas of Chuckwalla Valley, along State Route 177 (BLM and CDFW, 2002; CNPS, 2009). However, it is likely that this record was mistakenly identified and is actually a population of *Astragalus lentiginosus* var. *variabilis* instead (N. Fraga, Rancho Santa Ana Botanical Gardens, pers. comm. to K. Hughes, 2008). During Spring 2008 surveys for the Project, all of the plants found in the aforementioned population keyed to *A. l.* var. *variabilis*. The strongly inflated, two-celled, papery, speckled pods of this silky-haired milkvetch easily distinguish it from other milkvetches. It is an herbaceous perennial whose above-ground portions die back during drought periods. While it is restricted to loose-sandy, including aeolian, soils, the substrate over the soil may be slightly gravelly. Microhabitat sites are often associated with disturbance, consistent with many legumes, and in a 1987 survey of the proposed Southern California Edison (SCE) Devers-PaloVerde No. 2 Transmission Line, individuals were commonly found in road berms (Karl, pers. obs.).

Coachella Valley milkvetch is highly unlikely to be found on the Project due to lack of habitat and lack of nearby verified populations. It was not seen during field surveys in 2008, 2009, or 2010; nor on several previous surveys for the IID Desert Southwest Transmission Project or Southern California Edison Devers Palo Verde II Transmission Line Project.

American Peregrine Falcon. (*USFWS: Delisted, Bird of Conservation Concern; BLM: none; CDFW: Endangered, Fully Protected*). This is a falcon of open country, cliffs, and occasionally cities. It breeds from Alaska south to Baja California, wintering in Baja California, the Gulf of California, and extreme southern California. The nest is a scrape on a high cliff ledge and, as such, this species may forage on the Project, but nest off-site.

There are no records in the CNDDDB database for peregrine falcon in Riverside or Imperial counties (CNDDDB 2008, 2009b) and no peregrine falcons or possible aeries

¹ BLM Sensitive refers to a species under review, rare, with limited geographic range or habitat associations, or declining. BLM policy is to provide the same level of protection as USFWS candidate species.

have been observed on previous surveys in the Project area, including in the mountains adjacent to the transmission line in 2009 Project surveys or during surveys on the Central Project Area for the Eagle Mountain Landfill EIR. So, it is highly unlikely that peregrine falcon is present. The Project only offers foraging habitat for this species, although nesting could occur in the mountains adjacent to much of the Project, especially the Central Project Area. In the 1992 Biological Opinion that USFWS issued for the Eagle Mountain Landfill, their analysis determined that the American peregrine falcon did not warrant consultation (i.e., not present).²

Gila Woodpecker. (*USFWS: Bird of Conservation Concern; BLM: none; CDFW: Endangered*). The Gila woodpecker inhabits desert scrub and washes, saguaros, river groves, and woodlands, including residential shade trees. Its range extends from the Imperial Valley to the southern tip of Nevada, southern and central Arizona, extreme southwestern New Mexico, all of Baja California, and much of western and central Mexico.

There is no Gila woodpecker habitat on the Project. Within the Project area, the species is possible at the residential development at Lake Tamarisk, but this seems unlikely due to this small island of compromised habitat in a broad area of inhospitable habitat. No Gila woodpecker has been observed on any surveys in the Project area.

Desert Tortoise. (*USFWS: Threatened; BLM: none; CDFW: Threatened*). The desert tortoise is one of five species of North American tortoises, four of which belong to the genus *Gopherus*: *G. agassizii* (desert tortoise), *G. berlandieri* (Texas tortoise), *G. flavomarginatus* (bolson tortoise), and *G. polyphemus* (gopher tortoise). A fifth potential species, is likely in southern Sonora, two individuals of which were found in southern Baja California, Mexico and named *Xerobates leptocephalus* (scaley-headed tortoise) (Ottley et al., 1989). The desert tortoise inhabits the southwest north of Baja California, with a current range extending from southwestern Utah, west to the Sierra Nevada Range in California, and south through Nevada and Arizona into Sonora, Mexico (Ernst et al., 1994; Germano et al., 1994).

The desert tortoise occupies arid habitats below approximately 4,000 feet in elevation. Common vegetation associations in the Mojave Desert include creosote bush scrub, saltbush scrub, Joshua Tree Woodland, and Mojave yucca communities. In the Colorado and Sonoran deserts of southern California and Arizona, desert tortoises occupy somewhat lush desert habitats, with increased bunch grasses, cacti, and trees; thornscrub is occupied in the Sinaloan Desert. Because of the burrowing nature of tortoises, soil type is an important habitat component. In California, tortoises typically inhabit soft sandy loams and loamy sands, although they are also found on rocky slopes

² The American peregrine falcon was still a federally-listed species in 1992. It was de-listed in 1999.

and in rimrock that provide natural cover-sites in crevices. In portions of Nevada and elsewhere, where a near-surface durapan limits digging, tortoises often occupy caverns in the exposed caliche of wash banks. Hills with rounded, exfoliating granite boulders often host higher densities than the surrounding flats, especially in Arizona. Valleys, alluvial fans, rolling hills, and gentle mountain slopes are inhabited; only playas and steep, talus-covered slopes are avoided.

The USFWS emergency-listed the desert tortoise as endangered on August 4, 1989 (USFWS, 1989). The Mojave population – the species in California, Nevada, Utah, and parts of Arizona north of the Colorado River – was listed in the final rule on April 2, 1990 as threatened (USFWS, 1990). The Sonoran population, the species in the remainder of Arizona, is not listed and does not have protected status under the ESA. On June 22, 1989, the California Fish and Game Commission listed the species as threatened under the CESA (CDFW, 1989). On February 8, 1994, the USFWS designated critical habitat for the Mojave population of the desert tortoise (USFWS, 1994b), encompassing approximately 6,446,200 acres (2,608,741 ha). One critical habitat unit (CHU), the Chuckwalla CHU, intersects 16.7 acres of the Project (Table 3.6-1; Figure 3.6-1).

The 1994 Desert Tortoise Recovery Plan (USFWS, 1994a) identified six evolutionarily significant units of the desert tortoise in the Mojave region, based on differences in tortoise behavior, morphology and genetics, vegetation, and climate. Within those recovery units, the Desert Wildlife Management Areas (DWMAs) act as reserves in which recovery actions are implemented. The NECO Plan (BLM and CDFW, 2002) furthers this recovery goal by prescribing conservation and management measures for Chuckwalla DWMAs. The Chuckwalla DWMA intersects 16 acres of the Project (Table 3.6-1; Figure 3.6-1).

Table 3.6-1. Acreage of desert tortoise habitat within the Eagle Mountain Pumped Storage Project^{1,2}

Project Element	In DWMA	In Critical Habitat	In Category 3 Habitat	Total in Desert Tortoise Habitat³
Central Project Area	0	0	60.1	0
Transmission Line ROW				
<i>Tower Footprint plus Construction Area</i>	1.9 (23 towers)	2.04 (24 towers)	(25 towers)	4.1 (59 towers)

Project Element	In DWMA	In Critical Habitat	In Category 3 Habitat	Total in Desert Tortoise Habitat ³
<i>Access Road</i>	14.1	14.7	15.4	30.1
<i>Pulling/Tensioning Sites</i>	Currently Unknown (intended to fall within the T-Line ROW and substation site)	Currently Unknown (intended to fall within the T-Line ROW and substation site)	Currently Unknown (intended to fall within the T-Line ROW and substation site)	Currently Unknown (intended to fall within the T-Line ROW and substation site)
<i>Equipment Laydown Sites</i>	0	0	0	0
Proposed Interconnection Collector Substation	0	0	25	25
Water Pipeline	0	0	22.9 ⁴	22.9 ⁴
TOTAL PROJECT ACREAGE	16	16.7	125.5	142.2

1. Acreage is calculated based on the following assumptions:

- Transmission Line
 - 13.5 mi long, 200-foot ROW.
 - Approximately four towers per linear mile, with more in mountainous terrain (54 to 68 total).
 - Estimated access road width is 20 feet; towers will be immediately adjacent to the access road with no stub road. (Note: This assumption may change when specific towers are engineered. In the two, small mountainous areas, stub roads are more likely to be present to accommodate both the access road and the necessary tower location.)
 - Total tower footprint (40 by 40 feet) plus construction area is 3600 ft² (60 by 60 feet).
 - Tensioning and pulling sites are unknown at this time, but are intended to be located within the transmission line ROW and substation site.
 - Equipment laydown areas will be on previously disturbed lands and/or overlapping with other Project acreage.
 - Water Pipeline and Wells
 - 15.3 mi long, 30-foot ROW, with access road included in the ROW
 - Along Kaiser Road, half of the ROW is in the disturbed (bladed) road shoulder
 - Three groundwater wells; total estimated disturbance footprint for each is 2500 ft² (50 by 50 feet)
2. All calculations of acreage on the Central Project Area are based on GIS mapping (FERC 2011).
3. Total is Critical Habitat plus Category 3 and Category 1 (DWMA) Habitats outside Critical Habitat. In many areas, Critical Habitat and Category 1 and Category 3 Habitat overlap (*see* Figures 4-1 and 4-4).
4. Part of the mileage was adjacent to Kaiser Road, where only half the width of the ROW was in native habitat. The other half was in the road shoulder

The results of the 2008 and 2009 surveys are exhibited in Table 3.6-2. Desert tortoises have been observed on all previous surveys in the Project vicinity (Eagle Mountain Landfill EIS/R, IID Desert Southwest Transmission Project, Southern California Edison Devers Palo Verde II Transmission Line Project) and in spring 2008 and 2009 Project surveys. Habitat for this species exists on all native habitats on the Project, a total of 82.1 acres (Table 3.6-2).

Table 3.6-2. Desert Tortoise Survey (Spring 2008 and Spring 2009)

(Note: Only those 2008 observations that were in the area of the current Project configuration are presented here due to relevance.)

Sign Type ¹	Location ²			Class or Age ³	Size (mm) ⁴	Comments	
	Zone	Easting	Northing				
<i>2008 Data</i>							
Burrow	11	S	656191	3733160	3	240	
Burrow	11	S	648196	3741316			
Carcass	11	S	643262	3743984	>4 yrs		Bone fragments, more than 4 years old
Burrow	11	S	656191	3733160	5	230	
<i>2009 Data</i>							
Burrow	11	S	646365	3732299	1	240	
Burrow	11	S	643856	3733544	3	280	
Burrow	11	S	643179	3731957	4	280	
Burrow	11	S	645796	3732416	1	340	Part of a kit fox den complex; tracks
Burrow	11	S	643435	3734695	1	270	
Burrow	11	S	643526	3740268	2	340	Wash bank
Burrow	11	S	643868	3733423	1	150	Tracks; in a kit fox den complex
Burrow	11	S	643307	3739696	2	350	Caliche cave; scat
Burrow	11	S	644069	3733378	5	220	
Burrow	11	S	646372	3732240	4	260	
Burrow	11	S	642842	3731144	3	340	2 burrows
Burrow	11	S	646718	3732096	5	270	
Burrow	11	S	643326	3740341	1	265	Tortoise inside
Burrow	11	S	642777	3731436	5	250	
Burrow	11	S	646517	3732188	1	270	Pallet
Burrow	11	S	643331	3740258	1	330	Tortoise and scat inside
Burrow	11	S	643374	3734752	1	270	Tracks inside
Burrow	11	S	643435	3738580	4	600	Under boulder on mountainside
Burrow	11	S	643496	3734096	2	280	Adjacent to road
Burrow	11	S	644380	3742725	3	240	

Sign Type ¹	Location ²			Class or Age ³	Size (mm) ⁴	Comments	
	Zone	Easting	Northing				
Burrow	11	S	647403	3731608	3	250	
Burrow	11	S	643817	3739125	3	460	Caliche cave
Burrow	11	S	643824	3739096	2	320	
Burrow	11	S	643842	3738407	2	300	3 caliche caves, with scat, within 2 m
Burrow	11	S	644220	3738117	1	340	Scat and tracks; rock/soil burrow
Burrow	11	S	643284	3739693	2	380	
Burrow	11	S	643067	3741096	3/4	350	Caliche cave
Burrow	11	S	643309	3739697	1	450	Tracks and scat
Burrow	11	S	644109	3742316	3/4	530	Caliche cave; no other sign
Burrow	11	S	642573	3741027	1	410	Caliche cave; tracks and TY-2 scat (21 mm)
Burrow	11	S	642743	3740840	3	360	Caliche cave; large scat inside
Burrow	11	S	647989	3741323	5	195	
Burrow	11	S	645265	3731885	1	300	With tracks
Burrow	11	S	643470	3739656	2	~800	Cave; old scat (11 mm) plus TY-2/3 scat (2)
Carcass	11	S	641758	3731149	2-3 yrs	265	Male
Carcass	11	S	642595	3732874	4 yrs	~230	
Carcass	11	S	642998	3732353	>4 yrs	Adult	Single plastron bone
Carcass	11	S	643262	3743981	>4 yrs	Adult	Probably road kill - next to road and very fractured
Carcass	11	S	644946	3744904	>4 yrs	Adult	
Carcass	11	S	643369	3731924	>4 yrs	Adult	1 plastron fragment
Carcass	11	S	643252	3731668	>4 yrs	Unknown	1 bone fragment
Carcass	11	S	643128	3731406	>4 yrs	Adult	1 carapace fragment
Scat	11	S	642875	3731512	NTY-4	17	
Scat	11	S	646075	3732278	TY-2	18	
Scat	11	S	645619	3732548	TY-1	18	
Scat (3)	11	S	643000	3731571	TY-2	16	
Scat	11	S	643403	3734751	TY-2	14	
Scat	11	S	642615	3733739	NTY-3	12	
Scat	11	S	645639	3732602	NTY-4	18	

Sign Type ¹	Location ²			Class or Age ³	Size (mm) ⁴	Comments	
	Zone	Easting	Northing				
Scat	11	S	643251	3734554	2	Not recorded	
Scat (4)	11	S	646442	3732006	TY-2	12	
Scat	11	S	646343	3732082	TY-2	13	
Scat	11	S	642567	3741037	TY-2	17	
Scat	11	S	645071	3745270	TY-1	20	
Scat (3)	11	S	643062	3731886	TY-2	17	
Scat (3)	11	S	645251	3731877	TY-2	15	
Scat	11	S	646858	3742316	TY-2	18	
Scat	11	S	643496	3738860	NTY-3	15	
Tortoise	11	S	643420	3738853		260	Female
Tortoise	11	S	643482	3731568		235	Female

1. Number in parentheses is number of sign.

2. All coordinates are Universal Transverse Mercator North American Datum 83.

3. Class of burrow describes its condition and age of use:

- 1 Definitely tortoise, fresh (tracks, tortoise inside, freshly disturbed soil on mound/runway indicating tortoise use within last few days).
- 2 Definitely tortoise – Used this season.
- 3 Definitely tortoise – Not used this season.
- 4 Possibly tortoise – In good condition but unsure of species using burrow.
- 5 Definitely tortoise – Deteriorated.
- 6 Possibly tortoise – Deteriorated.

Class of scat describes age of use:

- TY-1 This year, fresh.
- TY-2 This year, dried, possible glaze, unexposed surfaces dark brown, slight odor.
- TY-3 This year, dried, no glaze, at least partially faded on exterior, very slight odor.
- NTY-3 Not this year, dried, no glaze, at least partially faded on exterior, no or very slight odor.
- NTY-4 Not this year, dried, loosening, pale or bleached.

4. Although U.S. equivalent measurements are presented throughout this document, it is standard procedure to collect data on desert tortoises using the metric system.

3.6.3 Potential Environmental Impacts

3.6.3.1 Methodology

Impact analysis has been based on field reconnaissance, resources agency consultation (as noted), and literature review of pertinent biological reports as referenced throughout this document.

During March and early April of 2008, 2009, and 2010 surveys were conducted for special-status species along the Project linear elements and at potential well sites.

In 2008, the Project routes were preliminary, so surveys were conducted both on areas where the Project would ultimately occur and areas that were eliminated in 2009. Because of the uncertain nature of the routes in 2008, the extensive survey protocol required by USFWS for desert tortoises was not used. Rather, evidence of desert tortoises and other special-status species, including habitat mapping, was gathered via the following procedures:

- **Transmission Line Right of Way (ROW):** Inside WHMAs, four, 50-foot-wide, adjacent transects were walked in the 200-foot transmission line ROW; outside WHMAs, two, 100-foot-wide, adjacent, meandering transects were walked in the ROW. (The NECO Plan places special emphasis on WHMAs; hence the more intensive surveys inside WHMAs; Figure 3.5-2.)
- **Water Pipeline ROW:** Where the ROW was precise, a 30-foot-wide transect was walked; where the ROW was imprecise, two, 100-foot-wide, adjacent, meandering transects were walked.
- **For ROWs through jojoba fields that had access roads,** only the roadsides were surveyed.
- **Potential well sites:** All known commercial wells in the Project area that had the potential to supply water to the Project were examined, photographed and analyzed for biological issues (especially ephemeral impoundments that could host Couch's spadefoot).

In 2009 and 2010, pedestrian transects were completed consistent with the USFWS "protocol" desert tortoise transects (USFWS, 1992). The transmission ROW surveyed in 2009 was 200 feet wide. The surveyed water pipeline ROW in 2009 was 60 feet wide to account for minor route shifts in the final 30-foot-wide ROW. In addition, 30-foot-wide "Zone-of-Influence" (ZOI) transects were walked on both sides of the ROWs at 100, 300, 500, 1,200, and 2,400 feet from the outer edges of the ROWs. (The 500-foot ZOI coincided with the 500-foot buffer transect for surveying burrowing owls; *see* Section 3.5 Biological Resources). The exception to this occurred where the ROWs went through jojoba farms. These are not tortoise habitat, although it is recognized that a tortoise could move in from adjacent native habitat, even if unlikely. Burrowing owls and other special-status vertebrates were, however, possible. So, in addition to full ROW transects, in 2009 ZOIs/buffer transects were walked at 100-foot intervals out to 500 feet. ZOIs through fenced or residential properties also were not walked, but were visually inspected from the edges of the property.

In all years all tortoise sign (e.g., individuals, dens, burrows, scat, tracks, pellets, skeletal remains) that was observed were measured, mapped and described relative to condition, size, and (where applicable) gender. Current and recent weather conditions were recorded to identify the potential for tortoise activity and the topography, drainage patterns, soils, substrates, plant cover, anthropogenic disturbances, and aspect-dominant, common and occasional plant species were described and mapped. Mapping sign and habitat features was achieved using Global Positioning System (GPS) units. Every mile of ROW and ZOI transects were photographed.

The timing requirement for USFWS desert tortoise protocol surveys is March 25 to May 31. However, because tortoises are known to be active in the Project area much earlier, the USFWS granted permission to conduct Project-area tortoise surveys on March 18 in 2009 (Tannika Engelhard, USFWS Carlsbad Field Office, personal communication with Alice Karl [Project Biologist], March 18, 2009).

During all years, Kaiser Ventures, Inc. (Kaiser) denied the Project Applicant access to Kaiser properties for surveying. This exclusion included the Project water pipeline ROW north of the MWD aqueduct and the transmission line ROW north of UTM 3745200N (North American Datum [NAD] 83). As a result, on-site surveys of the mine pits that will form the reservoirs and other Central Project Area features were not conducted. However, conditions on the Central Project Area were assessed using the extensive available literature about the area, previous survey data, and aerial photography.

3.6.3.2 Significance Criteria

The California State Water Resources Control Board concludes that the Project may have significant impacts on threatened and endangered species if it does any of the following:

- (a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

3.6.3.3 Environmental Impact Assessment

Project issues and impacts to biological resources are analyzed in two phases; the construction phase and the operation and maintenance phase.

3.6.3.3.1 *Construction*

Construction activities associated with the Project include: (1) development of the Central Project Area to accommodate the Project, (2) construction of the transmission line, and (3) construction of the water conveyance and supply system. Construction of the Central Project Area facilities includes:

- Building of the dams at the upper reservoir
- Application of a seepage control blanket in the reservoirs

- Construction of the below-ground tunnels, surge control facilities, powerhouse using blasting and boring
- Construction of storage and administration buildings
- Excavation of water treatment ponds

Construction of the transmission line includes:

- Preparation of staging/laydown areas
- Access road and spur road construction/improvement
- Communications cable
- Clearing and grading of pole sites
- Foundation preparation and installation of poles
- Wire stringing and conductor installation
- Temporary parking of vehicles and equipment in construction zones
- Equipment laydown/storage
- Cleanup and site reclamation

Construction of the water pipeline collection system includes:

- Site preparation and trenching
- Installation, covering and testing of the pipeline
- Temporary parking of vehicles and equipment in construction zones
- Equipment laydown/storage
- Cleanup and site reclamation

Equipment required for construction includes bulldozers, backhoes, graders, air compressors, man lifts, generators, drill rigs, truck-mounted augers, flatbed trucks, boom trucks, rigging and mechanic trucks, small wheeled cranes, concrete trucks, water trucks, crew trucks, and other heavy equipment.

For this analysis, the Project was assumed to receive a 50-year FERC license. The Project is scheduled to begin the 4-year construction period in June 2012; beginning operations in July 2015, with entire Project becoming operational in 2016. While construction spans 4 years, construction of the linear facilities will be completed in under a year. The assessment of the effects on desert tortoise must include not only by the tortoise presence, but the anticipated activity levels, which will be affected by weather conditions, forage availability, and season. These latter variables cannot be known at this time so the full extent of construction effects on desert tortoise (i.e., incidental take) cannot be assessed, although the effects in the discussion below conservatively assume that construction will occur during high activity of desert tortoises.

Based on comparisons between current (2010) aerial photos and aerial photos from 1997/1998 (FERC 2011), there do not appear to be any changes in the amount or quality of habitat in the disturbed areas of the Central Project Area since the 1992 BA (RECON, 1992) and 1992 Eagle Mountain Landfill Project BO were written (FERC, 2011). To a great extent, conditions on the Central Project Area are highly disturbed from past mining activities, and remain largely

denuded of vegetation. However, the footprints of the Eagle Creek stream bed, areas adjacent to some access roads, and portions of the proposed footprint for the desalination area include previously undisturbed areas could provide habitat for desert tortoise. Based on current aerial photography and estimates of likely disturbance areas, FERC estimated 60.1 acres of surface disturbance would occur in areas potentially suitable for desert tortoise habitat. However, without access to conduct protocol surveys, it is not possible to definitely determine how many acres of tortoise habitat exist in the central project area. Assuming tortoise density in these areas is similar to that estimated along the transmission line (discussed below), which is a conservative estimate given the generally poor quality of habitat in the central project area, FERC estimated less than one tortoise would be disturbed by construction in the Central Project Area (60.1 acres of habitat at 1.2 tortoises per square mile). Therefore, while no tortoises are expected to occur on the Central Project Area, there is a low likelihood that one or few tortoises may be present, either as transients or residents.

Tortoises are known to dig burrows into road berms, however, and may enter roadways or work areas from unfenced adjacent native habitat and thereby be subject to injury or death. So, it is possible that a few tortoises might be directly affected by construction on the Central Project Area. Based on monitors' observations for numerous construction projects and oft-observed tortoises adjacent to heavily travelled roads, there is no reason to believe that there would be any indirect construction effects (e.g., due to noise and activity levels) to tortoises living in native habitat adjacent to the Central Project Area.

On the linear facilities, direct impacts from construction will include habitat loss and may include loss of individuals. The greatest amount of tortoise sign found on the Project in 2008 and 2009 is along the transmission line ROW (Figure 3.6-2). There is tortoise habitat along 11.8 miles of the 15.3 mile water pipeline ROW; 9.8 miles of this is degraded because half of the ROW is in Kaiser Road or the ROW is either dissected by agriculture, is adjacent to State Route 177, or is in the Eagle Mountain Mine site. Translating sign into a reliable tortoise density from the methods mandated for data collection at the Project is not possible. (The USFWS [1992] protocols identify tortoise presence, relative abundance [i.e., an apparent dearth of wealth of sign], and areas that will require more intensive monitoring during construction. Tortoise density is not a possible result from these surveys.) However, a very rough estimate of relative tortoise abundance can be made for the transmission line ROW from the number of burrows and assuming an average of 10 burrows used per year per tortoise (Bulova et al., 1994; Duda et al., 1999). Counting all burrows, even those that were not recent because of the early spring timing of the surveys (i.e., tortoises had only been active for a few weeks), a total of 11 burrows were found in 10.7 miles of the 200-foot ROW. (This does not include the 2.8 miles of ROW on Kaiser property that were not surveyed.) This translates into 27 burrows per square mile. Dividing by 10 burrows per tortoise yields an estimate of three tortoises per square mile on the transmission line ROW, a very low density.

No other surveys in the Project area have provided reliable density estimates. Surveys in the late 1970's using broadly spaced samples estimated tortoise densities in the Project area at 0 to 20

tortoises per square mile (Berry and Nicholson, 1984) for all but an approximately 3-mile segment south of the MWD substation; this was estimated (from one sample) at 20 to 50 tortoises per square mile. While these surveys were unable to provide reliable estimates of tortoise density or reliable geographic divisions in tortoise abundance (*see* Karl, 2001, for review), they were still useful in suggesting extremes of tortoise abundance. In the Project area, then, the general lack of tortoise sign suggests that in the 1970's tortoise densities were quite low. During tortoise studies for the Eagle Mountain Landfill EIR (RECON, 1992; Riverside County and BLM, 1996), tortoise sign and tortoises were observed where the Project transmission line enters the Central Project Area, and along the Project transmission line ROW, from the MWD substation south. No estimates of tortoise density were made.

Due to relatively low densities and intensive, continuous construction monitoring (*see* Section 3.6.4 Mitigation Program), tortoise losses in the construction zones are expected to be absent to very low. Traffic during Project construction will increase on Kaiser Road, Eagle Mountain Road, and State Route 177 for 3 years. This is likely to result in increases in tortoise losses on those roads over current conditions.

Habitat loss on the linear facilities, including the substation, is expected to total 82.1 acres (Table 3.6-2). Functionally, this loss is expected to be a minor impact as the footprint of habitat physically disturbed is discontinuous (i.e., small patches) and is small relative to the surrounding available habitat.

A total of 16.7 acres of designated desert tortoise critical habitat overlaps the Project, along the transmission line (Table 3.6-2; Figure 3.6-2). The Chuckwalla CHU totals 1,020,600 acres (USFWS, 1994b), so the Project will affect 0.0019 percent of the CHU.

The Chuckwalla DWMA intersects 16 acres of the Project. The Chuckwalla DWMA totals 820,077 acres (BLM and CDFW, 2002), so the Project will affect 0.0021 percent of the DWMA. The NECO Plan identifies a maximum of 1 percent surface disturbance limit in a DWMA.

Special habitat resources, such as nesting areas or important wintering or summering burrows, may be lost during Project construction. Desert tortoises occupy from two to 20 burrows per year (Bulova et al., 1994; Duda et al., 1999), with one estimate of five new burrows in a year. While most desert tortoise biologists would agree that some burrows appear to be important because (a) there is limited burrowing potential in the area due to a near-surface hardpan or other factors, or (b) accumulations of variably aged scat are present, there are no available studies that specifically identify important burrows. Pre-construction surveys for desert tortoises (*see* Section 3.6.4 Mitigation Program) will attempt to identify special-resource burrows, which will be avoided if possible.

Loss of native habitat for the sole purpose of construction (as opposed to maintenance) is temporary, but should be considered semi-permanent for the Colorado Desert. Natural regrowth is constrained by limited and unpredictable precipitation and can require several decades to

approach pre-disturbance conditions. During this time, the habitat is unavailable for use by native wildlife. As such, all surface disturbances during construction that results in the removal or displacement of vegetation and soil should be considered semi-permanent.

In addition to the semi-permanent loss of habitat, tortoises may experience temporary disruption of normal movements to achieve feeding, breeding, sheltering, and dispersal. Based on anecdotal behavioral observations of hundreds of resident tortoises in many projects, there is no evidence that tortoises are disrupted to the point of potential harm from construction of pipelines and transmission lines. However, if mitigation associated with construction of any Project component includes erecting temporary or permanent exclusion fencing, this could disrupt normal movement patterns. With the exception of the substation (25 acres) tortoises displaced due to construction will be able to return to the area once construction activities have ceased.

Indirect construction impacts also could include dust deposition on neighboring vegetation. This is expected to be both temporary and minimized by maintaining air quality standards (*see* Section 3.13 Air Quality). There will be no permanent impacts on plant growth that could affect desert tortoise forage or shelter.

3.6.3.3.2 *Operation and Maintenance*

Operation and maintenance activities associated with the Project will primarily be restricted to the Central Project Area, but will also include routine, as well as unscheduled, maintenance on the transmission line, pipeline, and wells. The following discussion summarizes the impacts to desert tortoises that may result from the presence and functioning of the Project.

In general, the primary on-site impacts to desert tortoises from operation of the Project are limited to loss of individuals that move onto the site, including during transmission line maintenance.

Habitat loss was addressed in Section 3.6.3.3.1 Construction impacts. Maintenance of tower pads, access and spur roads on the transmission line would perpetuate the vegetation loss of tower pads and roads. The 57.1 acres of disturbed habitat on the transmission line and water pipeline (not including the substation) would be available to use by desert tortoises, but degraded. This is expected to be functionally negligible for desert tortoise because it will exist as small patches of open space, 0.08 acres for each tower pad and an approximately 20-foot road width, interspersed through native habitat.

Based on the low amount of desert tortoise habitat on the Central Project Area, the small footprint of the transmission line, low Project area tortoise densities, and infrequent maintenance activities, it is anticipated that losses of desert tortoises and tortoise resources from on-site Project impacts will be minor to negligible.

No impacts are anticipated from operation of the water pipeline.

Off-site, desert tortoises may experience indirect, adverse effects from Project operation. The following effects were considered:

- Loss of dispersal areas and connectivity to other areas
- Altered home ranges and social structure
- Facilitated ingress into the Project area from Project features
- Altered plant species composition due to the introduction of exotic vegetation
- Increased depredation by predators attracted to the site

The water pipeline and transmission line will present neither physical barriers nor deterrents to movement, so they will not affect the normal movements of tortoise to achieve feeding, breeding, sheltering, dispersal, or migration. The substation will present a small barrier to movement, but it is adjacent to the town of Desert Center, the frontage road, and Interstate 10, so it is unlikely that tortoises would be further affected. The Central Project Area has been developed for decades and does not currently contain habitat that could be considered a corridor, so its development for the Project will not cause an incremental change that would affect tortoise use.

Because of the existence of many roads in the area of the pipeline and transmission line, it is not anticipated that any new recreational access, with concomitant habitat degradation and potential species loss, will be provided by these ROWs. Similarly, paved roads that service the Project are already well-used by Kaiser employees and local residents. Traffic associated with the Project is anticipated to provide a negligible incremental increase over current levels.

Plant community structure and resulting fauna may be altered if non-native invasive species that are currently in the area spread during construction and/or maintenance activities increase both abundance and distribution of those species. (*See Section 3.5 Biological Resources for a discussion the invasive species in the Project vicinity and their attendant impacts on native habitats.*) Pre-construction surveys, controls during construction, and post-construction weed abatement will be employed minimize or eliminate this impact.

Faunal community structure may be altered if predators are attracted to reservoirs due to available water or night lighting. Common ravens, in particular, are predators as well as scavengers, and may increase as a result of the reservoirs providing a new and secure water supply. Coyotes are another predator species of concern in the Project area. However, on-site water sources plus nearby water sources currently provides a variety of water resources for ravens and coyotes and other native and non-native species. There is a 1.2-acre wastewater treatment pond that can be seen on aerials and is assumed to still support human uses of the site (Figure 3.5-10). Photos of this pond, and other water sources in the Project area, are found in Figures 3.5-11 through 3.5-18. As one of the few easily accessible water sources in that area, it is highly likely to provide water for both coyotes and ravens. Seasonal water is likely to pool in the pits and on other hard, mined surfaces. NECO identified a developed tank along the northern edge of the Central Project Area (Figure 3.5-8). Buzzard Spring, approximately 3 miles south of the Central Project Area, has pooled water (Divine and Douglas, 1996). There is a 10-acre pond

used by the Metropolitan Water District's Eagle Mountain Pumping Plant, approximately 4 miles south of the Central Project Area (Figures 3.5-13 and 3.5-14). The CRA has 8 acres of exposed water near the Central Project Area and transmission corridor. Access to the CRA by wildlife is likely to be limited by physical characteristics of the channel and fencing, although it is accessible to ravens and other birds (Figures 3.5-15 and 3.5-16). Two large ponds are present within the community of Lake Tamarisk (Figure 3.5-17 and 3.5-18). Because of these baseline, continuous, water subsidies, it is likely that ravens and coyotes already exist in the Central Project Area. In fact, these species were detected during field surveys within and adjacent to the Project boundary. A simple increase in the quantity of water, when it is already fully available, does not change the availability to opportunistic predators. As such, it is not likely that there would be a measurable change in the density of predators, or, as a result, a significant change in impacts to local fauna.

Because of these baseline conditions, it is possible that ravens may increase over baseline levels, but this increase may not be either measurable or have a significant impact on local fauna. A Predator Monitoring and Control Plan will be implemented as part of the Project's environmental measures to ensure that raven increases due to the Project, if any, will not cause a biologically significant impact to the local fauna (*see* discussion below and MM TE-5).

Indirect impacts to desert tortoises on Joshua Tree National Park (JTNP) from Project operation are unlikely to occur. First, the impacts in the Project area are anticipated to be low and fully mitigated. Second, there is no reasonable scenario that would suggest that impacts to tortoises would increase farther away from the Project area, in the JTNP.

If ravens were to increase in response to resources at the Project, these ravens could forage in the JTNP or disperse into the JTNP from enhanced reproductive opportunities at the Project. The nearest JTNP tortoise population is in Pinto Basin, approximately 5 miles away. Ravens have been known to forage up to 30 miles from their roosts (B. Boarman pers. comm. to A. Karl), although this is unusual. Mean distances from a roost to a point resource have been reported as 3.9 miles (Kristan and Boarman, 2003) and 16.8 miles (Mahringer, 1970, as cited in Boarman and Heinrich 1999). In two studies observing distances to roosts from landfills, 68 percent of 142 birds remained within 0 miles (Mahringer, 1970 [in Boarman and Heinrich, 1999]), with 94 percent within 4 miles of a landfill. Nesting ravens generally remain within a ¼ mile (Kristan and Boarman, 2003) to 0.35 miles of the nest. (B. Boarman, pers. comm. to A. Karl). Overall, raven densities tend to decline with increasing distance from point subsidies (Kristan and Boarman, 2003).

While the JTNP tortoise population is well within flight distance for a raven, it is expected that the Project will not provide new or enhanced resources over those already existing on the Kaiser site. A raven monitoring and control plan will be implemented as part of the Project's environmental measures to ensure that raven increases due to the Project, if any, will not cause a biologically significant impact to the local fauna (*see* MM TE-5).

Environmental Impact Assessment Summary:

- (a) *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species indentified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?* No. Construction on the Central Project Area will take place primarily (95% of Central Project Area construction) on highly disturbed, heavily mined areas. Desert tortoise may be affected by Project construction, particularly along the proposed transmission corridor. In addition, there is tortoise habitat along 11.8 miles of the 15.3 mile water pipeline ROW; yet, 9.8 miles of this is degraded because half of the ROW is in Kaiser Road or the ROW is either dissected by agriculture, is adjacent to State Route 177 or is in the Eagle Mountain Mine site. As such, potential impacts require adherence to the mitigation program. No significant impacts after implementation of the mitigation program are anticipated.

Impact 3.6-1 Coachella Valley Milkvetch. Based on site reconnaissance and literature review, this species is not expected to be located on-site, or in areas that will be affected by the Project. Therefore, it is highly unlikely that there would be any Project effects on the milkvetch. However, if found on-site, this impact would be *potentially significant and subject to the mitigation program*; as such, pre-construction surveys will be conducted to insure that no Coachella Valley Milkvetch will be disturbed (PDF BIO-2).

Impact 3.6-2 American Peregrine Falcon. Based on site reconnaissance and literature review, this species is not expected to be located on-site or in areas affected by the Project. This species is unknown from Riverside and Imperial counties, and has not been found during previous surveys in the Project area, including the Central Project Area. Therefore it is highly unlikely that there would be any Project effects on peregrine falcon. However, if found on-site, this impact would be *potentially significant and subject to the mitigation program*; as such, pre-construction surveys will be conducted to insure that no American Peregrine Falcon will be disturbed (PDF BIO-1).

Impact 3.6-3 Gila Woodpecker. Based on site reconnaissance and literature review, this species is not expected to be located on-site or in areas affected by the Project, nor residential areas. Between the small residential areas and the Project is a broad area of inhospitable habitat. However, if found on-site, this impact would be *potentially significant and subject to the mitigation program*; as such, pre-construction surveys will be conducted to insure that no Gila Woodpecker will be disturbed (PDF BIO-1).

Impact 3.6-4 Desert Tortoise. Desert tortoise may be affected by Project construction, particularly along the proposed transmission corridor. The Project may adversely affect desert tortoise, as such, this impact is *potentially significant and subject to the mitigation program* (MM TE-1 through MM TE-4, MM TE-6 through MM TE-7, and MM BIO-1 through MM BIO-4). A Biological Assessment has been prepared by Eagle Crest Energy Company and submitted

to the FERC. A Comprehensive Biological Mitigation Monitoring Program is incorporated as mitigation (MM BIO-1).

Impact 3.5-5 Increase to Raven Population. If raven populations were to increase in response to additional water resources at the Project, these ravens could forage in the JTNP or disperse into the JTNP from enhanced reproductive opportunities at the Project. This *potentially significant and subject to the mitigation program* (MM TE-5).

3.6.4 Mitigation Program

3.6.4.1.1 Surveys on the Central Project Area

Following licensing and access to the Central Project Area, surveys for special species and habitats that could support special species (including plants and mammals) will be conducted (listed as a project design feature in Section 3.5 Biological Resources; PDF BIO-1 through PDF BIO-3). Simultaneously, the site will be assessed for use by other wildlife. Based on the results of these surveys, necessary protection measures will be modified and/or developed in consultation with the USFWS and the CDFW.

3.6.4.1.2 General Mitigation Measures

Mitigation measures proposed in this section are based on the presence of the desert tortoise (the only threatened and endangered species that might be affected by the Project) and the analysis of Project effects on desert tortoises (above).

These mitigation measures are consistent with the NEPA Handbook (BLM, 2007), the NECO Plan (BLM and CDFW, 2002), and standard agency recommendations for similar impacts. Avoidance of desert tortoise and biological resources that support this species is the preferred method to minimize Project impacts. If avoidance is not possible, then minimization techniques are identified that will mitigate Project effects. Additionally, site restoration along the transmission line and water pipeline corridors will assist in repairing affected habitats and minimizing long-term Project effects. Off-site compensation is a final category of mitigation that can be used to mitigate impacts to special-status species and habitats when avoidance and disturbance cannot be avoided.

Several monitoring and/or control programs are identified here that will require development through discussion and review with the resource agencies required as a part of the Endangered Species Act and California Endangered Species Act consultation, and as part of permitting for streambed alteration as required in the Fish and Game Code. Consultation was conducted concurrent with review of the Draft EIS and Draft EIR and development of the Final EIS and Draft EIR. The salient features for all measures and plans are summarized here to verify that they are a part of Project environmental measures.

Several mitigation measures that were identified for other special-status wildlife (Section 3.5 Biological Resources) will also assist in minimizing impacts to the desert tortoise. In order to

reduce redundancy, they are not repeated here as stand-alone mitigation measures, but include the following:

- Comprehensive Biological Mitigation Monitoring Program (MM BIO-1)
- Biological Reporting to Resource Agency (MM BIO-2)
- Designation of an Approved Project Biologist (MM BIO-3)
- Worker Environmental Awareness Program (MM BIO-4)
- Revegetation Plan (MM BIO-7)
- Invasive Species Monitoring and Control (MM BIO-8)

Habitat protection measures for desert tortoises include: (1) a thorough construction-associated clearance and monitoring program to minimize tortoise injuries and loss, (2) habitat compensation, and (3) insuring that Project operations do not result in an indirect effect, specifically, increased raven depredation.

MM TE-1. Desert Tortoise Pre-construction Surveys and Clearance Surveys. Desert tortoises shall be removed from construction areas by the Project Biologist. Such tortoises shall be processed (cataloged, photographed, and numbered) prior to placement outside the construction zones on public or private land, or the Project ROW [right of way] (*see* Appendix C, Section 12.14, Revised Desert Tortoise Clearance and Relocation/Translocation Plan). On the linear facilities, this is achieved by first surveying for all desert tortoises that might be within construction zones or are likely to enter construction zones, immediately prior to the start of construction. (These surveys can be simultaneous with those for badger and kit fox.). Active burrows will be identified, measured, and the entrance “gated” (a 3-inch twig inserted into the floor of the runway) for monitoring tortoise use. The locations of all desert tortoises will be mapped so that those locations can be monitored for tortoise use during construction.

On the Central Project Area, there is little likelihood of desert tortoises except along the southern and eastern edges because of the altered landscape and massive and abundant tailings piles. Surveys first will be conducted in the Central Project Area to determine the presence of desert tortoise. If there is any suggestion of tortoise presence, either due to the presence of tortoise habitat and/or tortoise sign, a clearance survey (*see* Appendix C, Section 12.14, Revised Desert Tortoise Clearance and Relocation/Translocation Plan) will be completed in those areas after tortoise-proof fencing is installed (*see* MM TE-3: Desert Tortoise Exclusion Fencing). A minimum of two clearance passes will be completed. Surveys will coincide with heightened tortoise activity, from mid-March to mid-April and during October. This will maximize the probability of finding all tortoises. Any tortoises found will be removed per mitigation MM TE-4: Revised Desert Tortoise Clearance and Relocation/Translocation Plan.

Surveys and clearance on the substation will proceed identically to that on the Central Project Area, with the exception that a pre-construction survey prior to clearance surveys is not necessary. Surveys and clearance on the substation will proceed identically to that on the Central Project Area, with the exception that a pre-construction survey prior to clearance surveys is not necessary.

MM TE-2. Desert Tortoise Construction Monitoring. No construction in unfenced areas (*see* MM TE-3: Desert Tortoise Exclusion Fencing) on the linear facilities will occur without biological monitors. This includes both construction monitoring and maintenance activities that require surface disturbance. An adequate number of trained and experienced monitors must be present during all construction activities, depending on the various construction tasks, locations, and season. The Northern and Eastern Colorado Desert Coordinated Management (NECO) Plan suggests that construction activities occur when tortoises are inactive—November 1 to March 15—where possible. However, adequate monitoring will mitigate concerns about take due to heightened activity levels the remainder of the year.

All desert tortoises will be removed from harm's way by a biologist approved by the Project Biologist (MM BIO-2). The Project Biologist must be sufficiently qualified to ensure approval by USFWS and CDFW for all tortoise protection measures that may be implemented by the Project. USFWS describes a single designation for biologists who can be approved to handle tortoises, "Authorized Biologist." Such biologists have demonstrated to USFWS that they possess sufficient desert tortoise knowledge and experience to handle and move tortoises appropriately. Authorized Biologists are permitted to then approve specific monitors to handle tortoises, at their discretion. The CDFW must also approve such biologists, potentially including individual approvals for monitors approved by the Authorized Biologist.

Active burrows and special-resource burrows will be avoided, where possible. Where avoidance of any burrow is infeasible, occupancy will first be determined through the use of fiberoptics, probes or mirrors. All burrows that could potentially host a tortoise will be excavated with hand tools in the method prescribed by the Desert Tortoise Council (1994, rev. 1999), *Guidelines for handling desert tortoises during construction projects*. Any tortoises found will be removed from the construction area per MM TE-4: Revised Desert Tortoise Clearance and Relocation/ Translocation Plan.

Pipeline trenches will be closed, temporarily fenced, or covered each day. Each day, any open trenches will be inspected by an approved biological monitor at first light, midday, and at the end of each day to ensure tortoise safety.

If necessary, temporary fencing will be installed in the active work area to separate a tortoise from active construction, in order to maximize protection.

If a tortoise is injured or killed, surface disturbing activities must cease in the area of the killed or injured tortoise and the Project Biologist contacted. Injured tortoises will be taken to a qualified veterinarian if their survival is expected. USFWS will determine if the tortoise can be returned to the wild, should it recover.

As a mitigation performance standard, following site clearance, a report will be prepared by the Project Biologist to document the clearance surveys, construction monitoring, the capture and release locations of all tortoises found, individual tortoise data, and other relevant data. This report will be submitted to the CDFW and USFWS.

MM TE-3. Desert Tortoise Exclusion Fencing. The substation will be enclosed with a permanent tortoise exclusion fence to keep adjacent tortoises from entering the site. The fencing type will be 1- by 2-inch vertical mesh galvanized fence material, extending at least 2 feet above the ground and buried at least 1 foot. Where burial is impossible, the mesh will be bent at a right angle toward the outside of the fence and covered with dirt, rocks, or gravel to prevent the tortoise from digging under the fence. Tortoise-proof gates will be established at all site entry points. All fence construction will be monitored by qualified biologists to ensure that no tortoises are harmed. Following installation, the fencing will be inspected monthly and during all major rainfall events. Any damage to the fencing will be repaired immediately. Parking and storage will occur within the substation and disturbed, previously fenced areas.

Any areas on the Central Project Area that are determined through surveys to require fencing will be fenced as outlined above (Figure 3.6-4). Where a fence is discontinuous (between tailings piles for example), the fence ends will extend well up the slope of the piles, to ensure that tortoises cannot go around the end. Alternative methods may be explored to ensure that the fences are functional at excluding tortoises.

MM TE-4. Revised Desert Tortoise Clearance and Relocation/Translocation Plan. The plan is found in its entirety within Section 12.14. For both the Central Project Area and the linear facilities, it is anticipated that any tortoises removed would not be “translocated” or “relocated” in the biological sense of putting an animal in a location outside its home range. Instead, any tortoise would simply be removed to another part of its home range. Because construction on the Central Project Area will occur on highly disturbed previously mined areas, any tortoise found there during clearance would likely be a transient or in a peripheral part of its

home range, certainly outside its core use areas or parts of its home range that could support its survival. By moving such a tortoise to a location immediately adjacent to its capture site outside the fenced construction area, the Project would be maintaining the tortoise within its home range, not translocating it. The tortoise merely would be excluded from undesirable areas. For utility corridors and fence construction, tortoises would be removed a short distance from the construction zone. Hence, this plan will describe tortoise removal, not translocation. Tasks will include the following:

- Tortoise handling and temperature requirements
- Data gathered on removed tortoises
- Translocation site preparation (if any) and choice
- Monitoring – all tortoises removed will be monitored sufficiently to ensure its safety

MM TE-5. Predator Monitoring and Control Program. The Predator Monitoring and Control Program is found in its entirety within Section 12.14. Proposed projects on federal lands that may result in increased desert tortoise predator populations must incorporate mitigation to reduce or eliminate the opportunity for raven proliferation. One of the most significant desert tortoise predators are ravens. The USFWS has developed a program to monitor and manage raven populations in the California desert in an effort to enhance desert tortoise recovery. In order to integrate monitoring and management, the USFWS has agreed to an “in-lieu” fee to replace quantitative raven monitoring on new projects in the range of the desert tortoise. The Licensee will pay in-lieu fees to USFWS that will be directed toward a future quantitative regional monitoring program aimed at understanding the relationship between ongoing development in the desert region, raven population growth and expansion and raven impacts on desert tortoise populations. The vehicle for this program is a Memorandum of Understanding between the Licensee, CDFW, and USFWS.

The Predator Monitoring and Control Program may include this in-lieu fee if it is determined that the raven population may increase over current levels due to the Project.

In addition to this in-lieu fee, the program will include, at a minimum:

- A suite of construction and operations measures to reduce food scavenging and drinking by ravens (e.g., trash containment, minimization of pooling water on roadways and construction right-of-ways)

- Roadkill removal
- Qualitative monitoring of raven use of the Project site during operations, conducted on a pre-determined schedule by the on-site Project environmental compliance officer
- Breeding season nest surveys
- Baseline and post-construction surveys for other desert tortoise predators, including coyotes, wild dogs, and gulls
- Mitigation measures to be implemented if the number of predators increases
- A schedule for post-construction surveys during the second year of Project operation, followed by surveys once every 5 years
- The Licensee will continue to work collaboratively with the resource management agencies to conduct adaptive management as needed to control ravens and other predators in the Project area

MM TE-6. Habitat Compensation. The Northern and Eastern Colorado Desert Coordinated Management (NECO) Plan states that all lands within a DWMA will be designated as Category I Desert Tortoise Habitat,³ with required compensation of 5 acres for every acre disturbed. All lands outside a DWMA are considered Category III habitat, with a 1:1 compensation ratio.

Project overlaps 19 acres of Category I Habitat and 65 acres of Category III Habitat. A minimum total compensation, then, would be 160 acres (Figure 3.6-3).

This land would need to be purchased in the same population of desert tortoises as occupy the site. In addition, the following features should apply to compensation lands:

- Be part of a larger block of lands that are currently protected or able to be protected
- Are not subject to intensive habitat degradation (e.g., recreational use, grazing use, agriculture)

³ BLM habitat categories (BLM, 1988), ranging in decreasing importance from Category I to Category III, were designed as management tools to ensure future protection and management of desert tortoise habitat and its populations. These designations were based on tortoise density, estimated local tortoise population trends, habitat quality, and other land-use conflicts. Category I habitat areas are considered essential to the maintenance of large, viable populations.

- Have inherently moderate to good habitat that will naturally and ultimately regenerate when current disturbances are removed
- Preferably are bordered by native habitat suitable for tortoises, and/or
- In part, may represent a buffer for a block of good habitat

MM TE-7. Operations and Maintenance. Tortoises observed during routine maintenance activities will be allowed to voluntarily move out of harm's way. Transmission line repair activities that will result in surface disturbance will require biological monitoring, per mitigation MM TE-2.

3.6.5 Level of Significance after Implementation of Mitigation Program

Impact 3.6-1 Coachella Valley Milkvetch. As designed, PDF BIO-2 would result in a *less than significant* impact to the Coachella Valley Milkvetch.

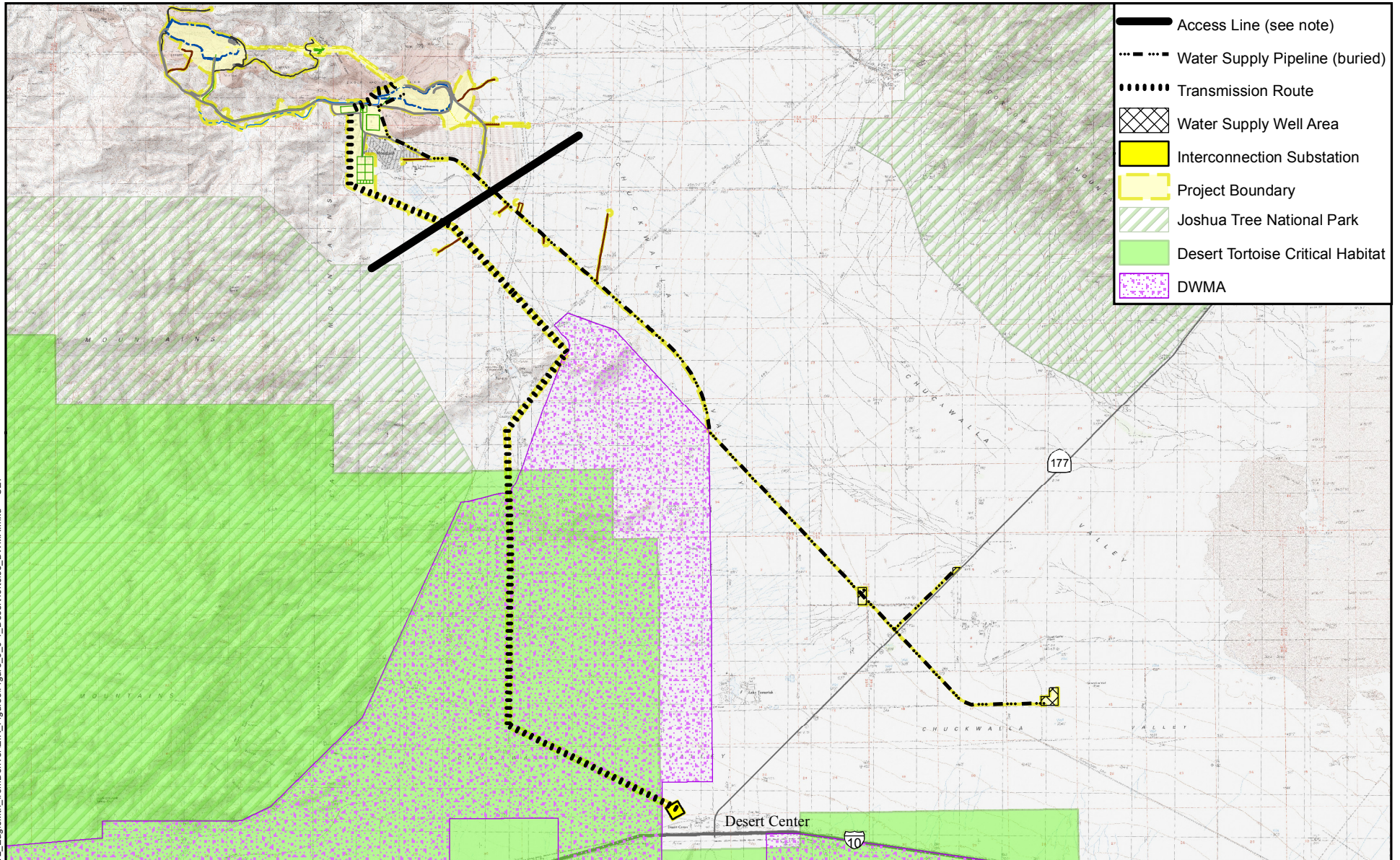
Impact 3.6-2 American Peregrine Falcon. With adherence to PDF BIO-1, potential impacts to the American Peregrine Falcon are concluded to be *less than significant*.










Impact 3.6-3 Gila Woodpecker. With adherence to PDF BIO-1, potential impacts to the Gila Woodpecker are concluded to be *less than significant*.

Impact 3.6-4 Desert Tortoise. Adherence to MM TE-1 through MM TE-4, MM TE-6, MM TE-7, and MM BIO-1 through MM BIO-4, would result in *less than significant* impact to desert tortoise.

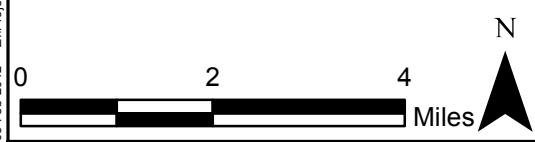
Impact 3.6-5 Increase to Raven Population. With inclusion of the identified mitigation program MM TE-5, which has been designed to avoid or reduce potential effects, biological impacts to ravens are concluded to be *less than significant*.

No residual impact to threatened and endangered species would occur with implementation of the proposed Project.



-  Access Line (see note)
-  Water Supply Pipeline (buried)
-  Transmission Route
-  Water Supply Well Area
-  Interconnection Substation
-  Project Boundary
-  Joshua Tree National Park
-  Desert Tortoise Critical Habitat
-  DWMA

NOTE: Mapping northwest of Access Line is based on aerial photographs and ground views rather than direct site access.



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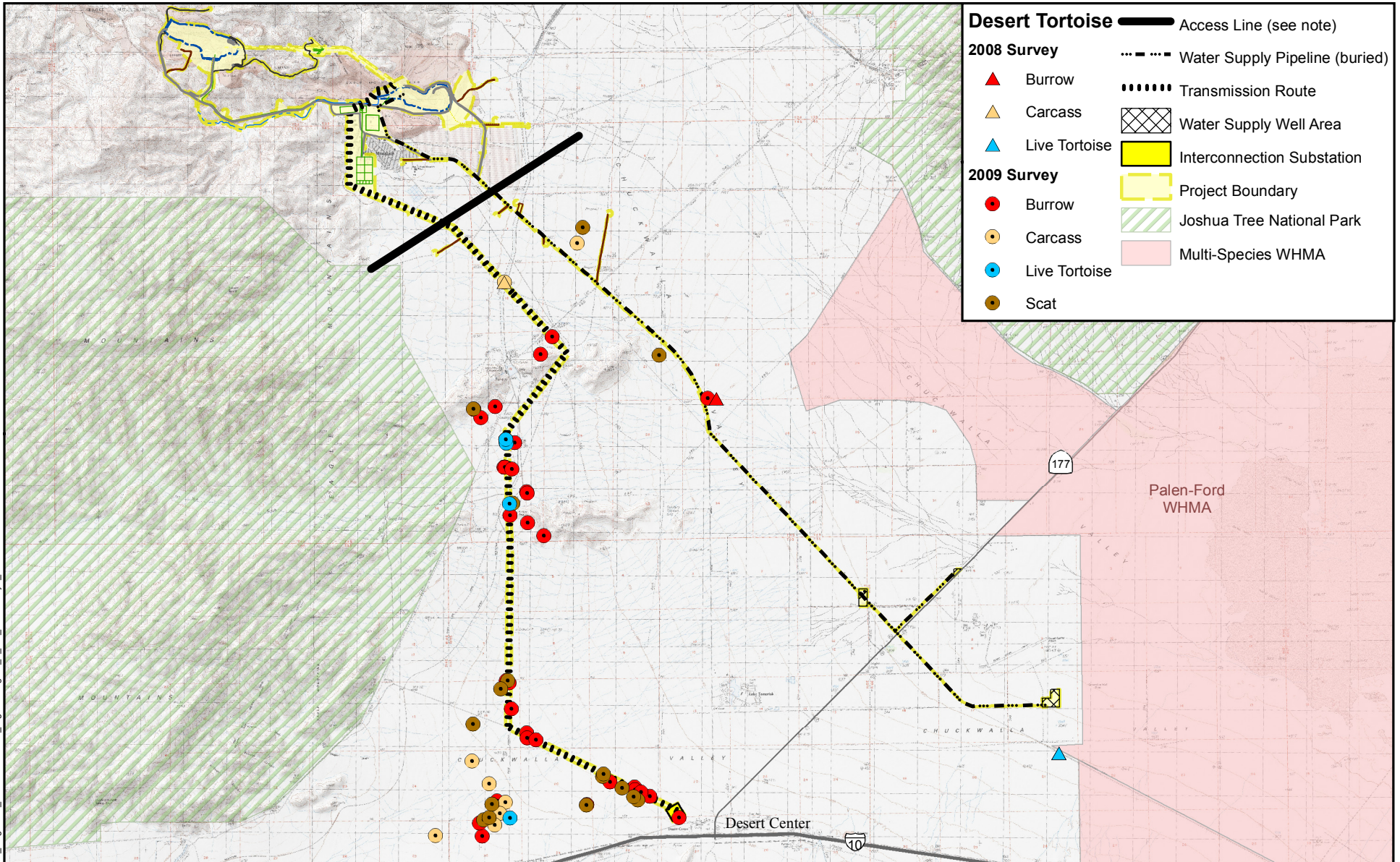
Eastern Riverside County, California



DESERT TORTOISE CRITICAL
 HABITAT AND DWMA
 IN THE PROJECT AREA

July 2013

Figure 3.6-1



Desert Tortoise

- Access Line (see note)
- Water Supply Pipeline (buried)
- Transmission Route
- Water Supply Well Area
- Interconnection Substation
- Project Boundary
- Joshua Tree National Park
- Multi-Species WHMA

2008 Survey

- Burrow
- Carcass
- Live Tortoise

2009 Survey

- Burrow
- Carcass
- Live Tortoise
- Scat

NOTE: Mapping northwest of Access Line is based on aerial photographs and ground views rather than direct site access.



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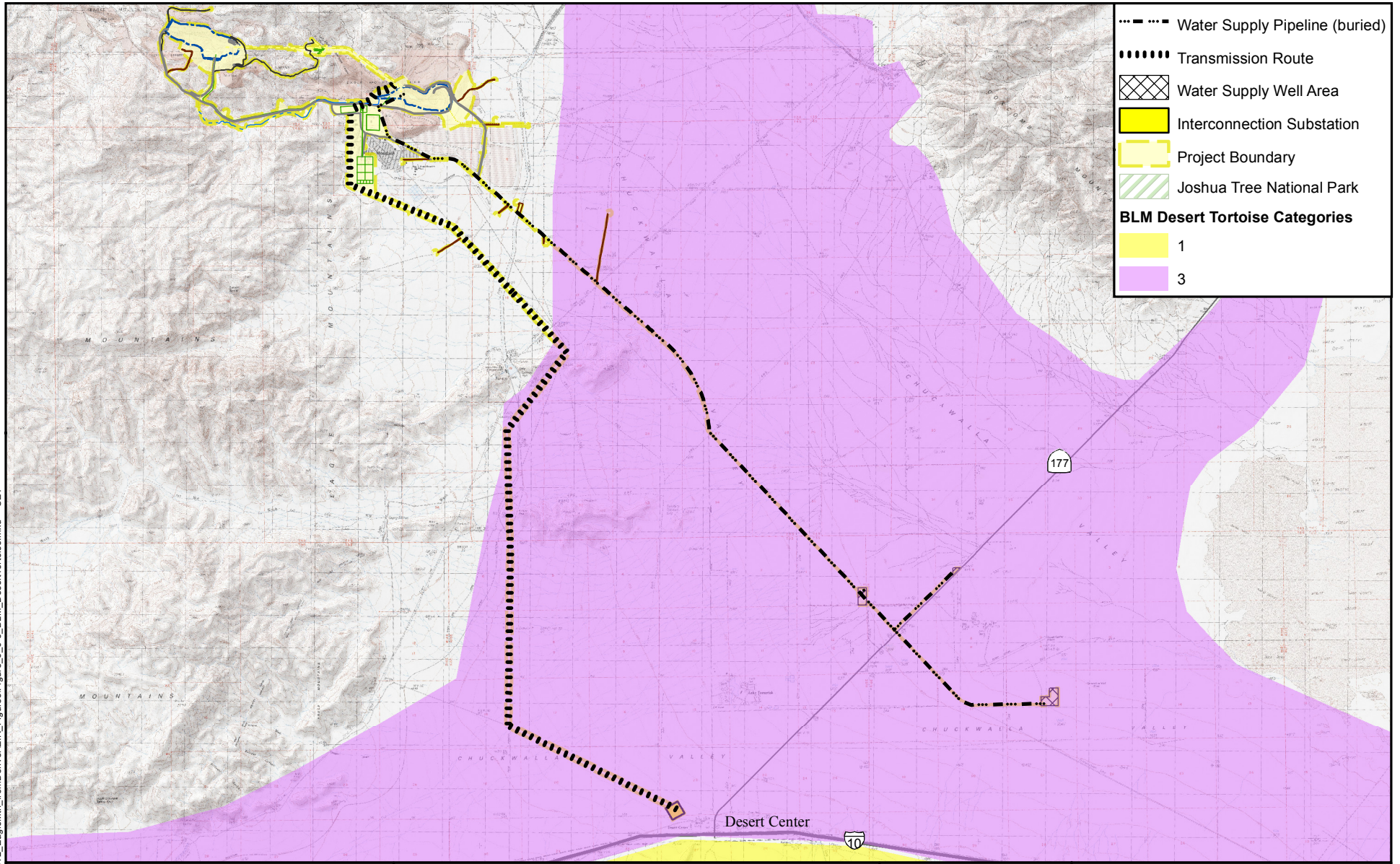
Eastern Riverside County, California



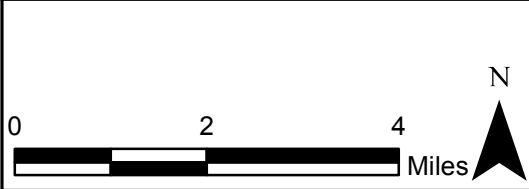
RESULTS OF SPECIAL
 BIOLOGICAL RESOURCES
 SURVEYS IN 2008 AND 2009:
 DESERT TORTOISE

July 2013

Figure 3.6-2



- Water Supply Pipeline (buried)
- Transmission Route
- ▣ Water Supply Well Area
- Interconnection Substation
- ▭ Project Boundary
- ▨ Joshua Tree National Park
- BLM Desert Tortoise Categories**
- 1
- 3



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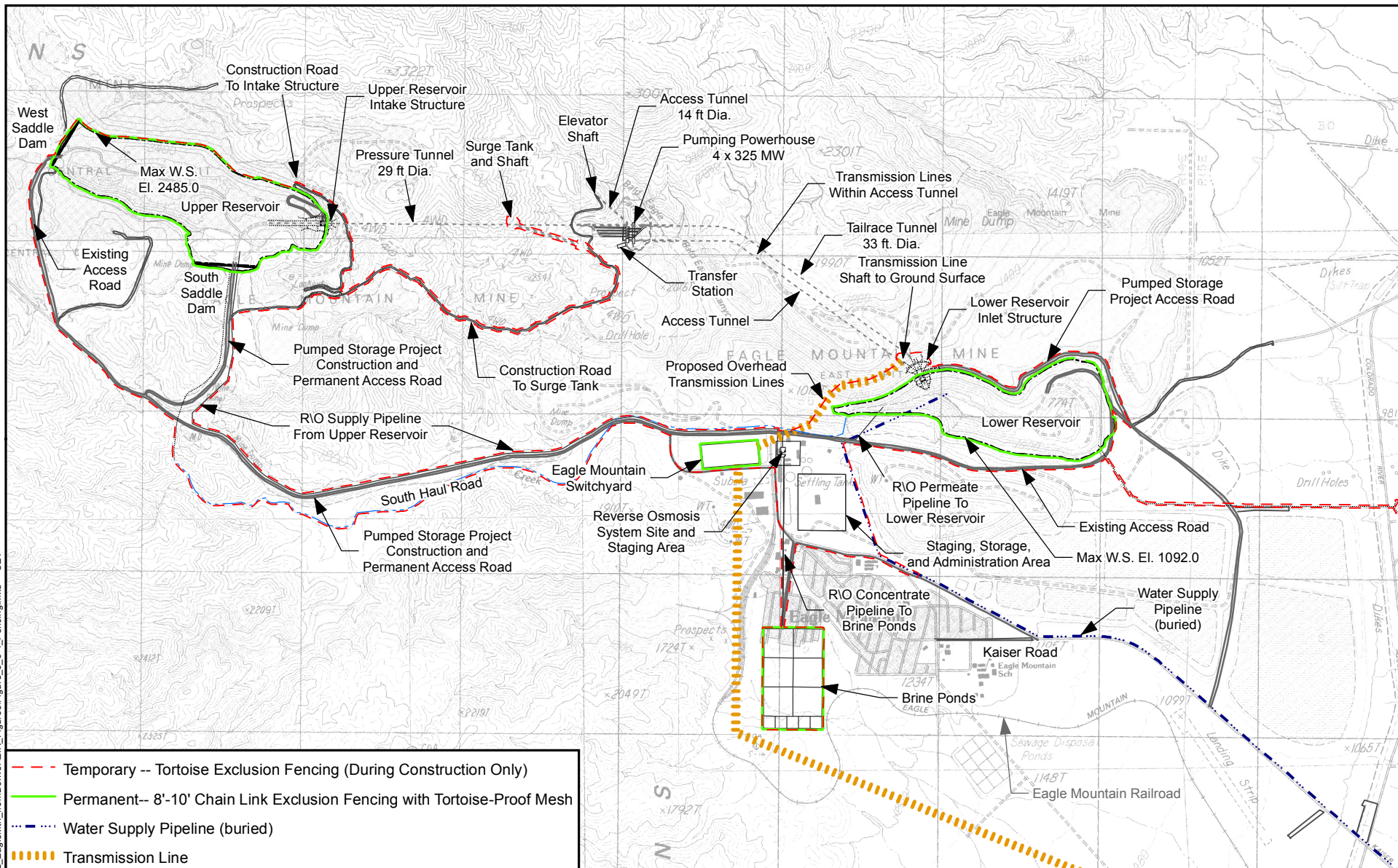
Eastern Riverside County, California



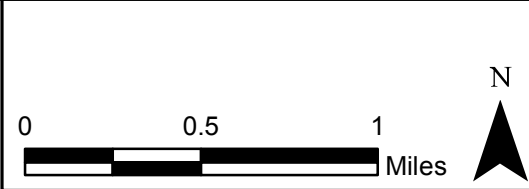
**BLM DESERT TORTOISE
 CATEGORIES NEAR
 PROJECT AREA**

July 2013 Figure 3.6-3

08-Feb-2012 Z:\Projects\060472_Eagle\Mn. from Denver\ER_Figures\Figure_3_6-4_Fencing.mxd SET



- - - Temporary -- Tortoise Exclusion Fencing (During Construction Only)
- Permanent-- 8'-10' Chain Link Exclusion Fencing with Tortoise-Proof Mesh
- ... Water Supply Pipeline (buried)
- Transmission Line



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**WILDLIFE
 EXCLUSION FENCING**

July 2013 Figure 3.6-4